CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE AT STATION **08-13-04**

Construct, maintain and afterwards remove a temporary structure in accordance with the applicable parts of the Standard Specifications and this Special Provision, (structure only; the approaches are not a part of this pay item). Provide a temporary structure with a minimum overall length of _____ feet (meters). Center the length of the structure about Station _____. Detour with the alignment, grade, and skew as indicated on the Roadway plans. If the skew is not 90°, then lengthening of the structure to accommodate a 90° skew is permitted. Provide a temporary structure with a minimum clear roadway width of _____ feet (meters) and an underclearance elevation no less than elevation _____.

Design the temporary structure for HS20 (MS18) live load in accordance with the current edition of the AASHTO Standard Specifications for Highway Bridges. The design of the temporary structure need not satisfy the seismic design criteria of AASHTO Division I-A "Seismic Design", Section 3. Due to the expected issuance of overweight permits by the NCDOT for certain loads above legal limits, design the temporary structure for the following five vehicle configurations:

Truck #1			Truck #2			Truck #3		
Axle	P (k)	Distance (ft)	Axle	P (k)	Distance (ft)	Axle	P (k)	Distance (ft)
1	12.00	0.00	1	12.00	0.00	1	4.50	0.00
2	20.00	8.08	2	20.00	8.08	2	25.00	8.08
3	20.00	4.00	3	20.00	4.00	3	25.00	4.00
4	20.00	4.00	4	20.00	4.00	4	20.00	18.00
5	16.67	20.00	5	18.00	18.00	5	20.00	4.00
6	16.67	4.00	6	18.00	4.00			
7	16.66	4.00						

Truck #1			Truck #2			Truck #3		
Axle	P (kN)	Distance (m)	Axle	P (kN)	Distance (m)	Axle	P (kN)	Distance (m)
1	53.38	0.00	1	53.38	0.00	1	20.02	0.00
2	88.96	2.46	2	88.96	2.46	2	111.21	2.46
3	88.96	1.22	3	88.96	1.22	3	111.21	1.22
4	88.96	1.22	4	88.96	1.22	4	88.96	5.49
5	74.15	6.10	5	80.07	5.49	5	88.96	1.22
6	74.15	1.22	6	80.07	1.22			
7	74.11	1.22						

Truck #4			Truck #5		
Axle	P (k)	Distance (ft)	Axle	P (k)	Distance (ft)
1	12.00	0.00	1	12.00	0.00
2	20.00	15.00	2	26.00	15.00
3	20.00	4.00	3	26.00	4.00
4	20.00	4.00	4	17.00	20.00
5	20.00	20.00	5	17.00	4.00
6	20.00	4.00	6	17.00	4.00
7	20.00	4.00	7	17.00	4.00

Truck #4			Truck #5		
Axle	P (kN)	Distance (m)	Axle	P (kN)	Distance (m)
1	53.38	0.00	1	53.38	0.00
2	88.96	4.57	2	115.65	4.57
3	88.96	1.22	3	115.65	1.22
4	88.96	1.22	4	75.62	6.10
5	88.96	6.10	5	75.62	1.22
6	88.96	1.22	6	75.62	1.22
7	88.96	1.22	7	75.62	1.22

Limit maximum stresses to the Operating Rating permitted values as defined in AASHTO Manual for Condition Evaluation of Bridges.

Design and construct the bridge rails on the temporary structure in accordance with the Test Level 3 (TL-3) criteria defined in the current edition of the AASHTO LRFD Bridge Design Specifications.

Attach the bridge rails in a way that permits the bridge approach railing system to transition from the guardrail system and attach to the rigid railing system on the temporary bridge.

Using timber floors or timber mat floors is not permitted due to anticipated high truck traffic. If timber piles are used, use piles that are new and conform to ASTM D25. Rough-peeled or clean-peeled untreated timber piles are permitted.

Submit design calculations to the Engineer that, as a minimum, include stress calculations for the following structural components: railings, rail post, rail post connections, flooring, main girders or floor beam system, bent cap, pile bearing, pile as a structural member and longitudinal and lateral stability of pile bents if necessary. For stream crossings, determine the pile stability assuming a scour depth equal to 250% of the pile diameter or width below the existing bed elevation. The Engineer may require a more detailed analysis of scour depth for pile bents containing more than a single row of piles.

Include material specifications for all new and used materials in the detail drawings of the structure. In addition, show the location and a detailed sketch of the used materials indicating condition of the material, the location and geometry of existing but unused holes, attachments left over from previous use and any other irregularities in the material.

Indicate the condition of any used materials in the design calculations. Provide access to any used materials for inspection prior to assembly.

Used high strength bolts, nuts and washers are permitted only in already bolted-up connections of used diaphragm and girder systems that are proposed for reuse. The use of used bolts is limited to secondary member connections such as diaphragms and is subject to approval.

The lump sum price bid for "Construction, Maintenance and Removal of Temporary Structure at Station _____" will be full compensation for the above work including all materials, equipment, tools, labor and incidentals necessary to complete the work.